

WHAT IS CLAIMED IS:

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1. A disk device comprising:  
a disk having predetermined information  
sectors recorded at a constant interval;  
a head scanning said disk; and  
10 a disturbance-compensation unit obtaining  
an amount of a disturbance based on a time-interval  
measurement in reading said predetermined  
information sectors so as to compensate a position  
of said head according to the amount of the  
15 disturbance.

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2. The disk device as claimed in claim 1,  
wherein said disturbance-compensation unit  
compensates a tracking error signal according to the  
amount of the disturbance, the tracking error signal  
corresponding to a positional error of said head on  
25 said disk.

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3. The disk device as claimed in claim 1,  
wherein said disturbance-compensation unit includes:

an angular-acceleration calculating unit  
calculating a rotational angular acceleration of a  
motor based on the time-interval measurement, the  
35 motor rotating said disk; and

a disturbance-compensation amount  
calculating unit calculating a disturbance-

compensation amount based on said rotational angular acceleration so as to compensate the position of said head according to said disturbance-compensation amount.

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4. The disk device as claimed in claim 3,  
10 wherein said disturbance-compensation unit further includes a filter filtering a value of said rotational angular acceleration including a vibration of the disturbance so as to supply said value to said disturbance-compensation amount  
15 calculating unit.

20 5. The disk device as claimed in claim 1, wherein said disturbance-compensation unit includes:  
an angular-velocity calculating unit  
calculating a rotational angular velocity of a motor based on the time-interval measurement, the motor  
25 rotating said disk;

an angular-acceleration calculating unit  
calculating a rotational angular acceleration of said motor based on said rotational angular velocity; and  
30 a disturbance-compensation amount calculating unit calculating a disturbance-compensation amount based on said rotational angular acceleration so as to compensate the position of said head according to said disturbance-compensation  
35 amount.

6. The disk device as claimed in claim 5,  
wherein said disturbance-compensation unit further  
includes a filter filtering a value of said  
rotational angular velocity including a vibration of  
5 the disturbance so as to supply said value to said  
angular-acceleration calculating unit.

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7. The disk device as claimed in claim 5,  
wherein said angular-acceleration calculating unit  
is composed of a differential filter.

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8. The disk device as claimed in claim 1,  
wherein said disturbance-compensation unit includes  
20 a repeatable run-out amount obtaining unit obtaining  
a repeatable run-out amount of said head in relation  
to said disk so as to adjust the amount of the  
disturbance by the repeatable run-out amount.

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9. The disk device as claimed in claim 8,  
wherein said repeatable run-out amount obtaining  
30 unit obtains said repeatable run-out amount by  
preliminarily detecting a deviation amount of said  
head affected by few disturbances, said head  
deviating from a track of said disk by the deviation  
amount.

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10. The disk device as claimed in claim 8,  
wherein said repeatable run-out amount obtaining  
unit calculates an average of repeatable run-out  
amounts of said head measured at a plurality of  
5 points on said disk so as to adjust the amount of  
the disturbance by said average.

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11. The disk device as claimed in claim 8,  
wherein said repeatable run-out amount obtaining  
unit divides said disk into a plurality of zones so  
as to obtain the repeatable run-out amount in each  
15 of said zones.

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12. A disturbance compensation method for  
a disk device including a disk having predetermined  
information sectors recorded at a constant interval,  
and a head scanning said disk, the method comprising  
the steps of:

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obtaining an amount of a disturbance based  
on a time-interval measurement in reading said  
predetermined information sectors; and

compensating a position of said head  
according to the amount of the disturbance.

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13. The disturbance compensation method  
35 as claimed in claim 12, further comprising the step  
of compensating a tracking error signal according to  
the amount of the disturbance, the tracking error

signal corresponding to a positional error of said head on said disk.

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14. The disturbance compensation method as claimed in claim 12, further comprising the steps of:

10           calculating a rotational angular acceleration of a motor based on the time-interval measurement, the motor rotating said disk; and  
              calculating a disturbance-compensation amount based on said rotational angular acceleration  
15           so as to compensate the position of said head according to said disturbance-compensation amount.

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15. The disturbance compensation method as claimed in claim 12, further comprising the steps of:

              calculating a rotational angular velocity  
25           of a motor based on the time-interval measurement, the motor rotating said disk;  
              calculating a rotational angular acceleration of said motor based on said rotational angular velocity; and  
30           calculating a disturbance-compensation amount based on said rotational angular acceleration  
              so as to compensate the position of said head according to said disturbance-compensation amount.

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16. The disturbance compensation method as claimed in claim 12, further comprising the steps of:

obtaining a repeatable run-out amount of  
5 said head in relation to said disk; and  
adjusting the amount of the disturbance by  
the repeatable run-out amount.

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17. The disturbance compensation method as claimed in claim 16, further comprising the step  
15 of preliminarily detecting a deviation amount of  
said head affected by few disturbances, said head  
deviating from a track of said disk by the deviation  
amount, so as to obtain said repeatable run-out  
amount.

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18. The disturbance compensation method as claimed in claim 16, further comprising the step  
25 of calculating an average of repeatable run-out  
amounts of said head measured at a plurality of  
points on said disk so as to adjust the amount of  
the disturbance by said average.

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19. The disturbance compensation method as claimed in claim 16, further comprising the step  
35 of dividing said disk into a plurality of zones so  
as to obtain the repeatable run-out amount in each  
of said zones.